

FIG. 1A

ggggcgggcgggcggcgcggggagcggcggcggggagccaggccggcggggcggggcggggccgg	gggcaggaagacggcgctgccccggaggagc	-153
aaggaggcggcggggccgcgtccggccgtctcgccgttggccttggcttggcggcggcgggtggagaag		-77
ATG CTG CAG TCC CTG GCC GGC AGC TCG TGC GTG CGC CTG GTG GAG CGG CAC CGC TCG		-1
M L Q S L A G S S C V R L V E R H R S		19
GCC TGG TGC TTC GGC TTC CTG GTG CTG GGC TAC TTG CTC TAC CTG GTC TTC GGC GCA		57
A W C F G F L V L G Y L L Y L V F G A		114
GTG GTC TTC TCC TCG GTG GAG CTG CCC TAT GAG GAC CTG CTG CGC CAG GAG CTG CGC		38
V V F S S V E L P Y E D L L R Q E L R		171
AAG CTG AAG CGA CGC TTC TTG GAG GAG CAC GAG TGC CTG TCT GAG CAG CAG CTG GAG		57
K L K R R F L E E H E C L S E Q Q L E		228
CAG TTC CTG GGC CGG GTG CTG GAG GCC AGC AAC TAC GGC GTG TCG GTG CTC AGC AAC		76
Q F L G R V L E A S N Y G V S V L S N		285
GCC TCG GGC AAC TGG AAC TGG GAC TTC ACC TCC GCG CTC TTC TCC GCC AGC ACC GTG		95
A S G N W N W D F T S A L F F A S T V		342
CTC TCC ACC ACA GGT TAT GGC CAC ACC GTG CCC TTG TCA GAT GGA GGT AAG GCC TTC		114
L S T T G Y G H T V P L S D G G K A F		399
TGC ATC ATC TAC TCC GTC ATT GGC ATT CCC TTC ACC CTC CTG TTC CTG ACG GCT GTG		133
C I I Y S V I G I P F T L L F L T A V		456
GTC CAG CGC ATC ACC GTG CAC GTC ACC CGC AGG CCG GTC CTC TAC TTC CAC ATC CGC		152
V Q R I T V H V T R R P V L Y F H I R		513
TGG GGC TTC TCC AAG CAG GTG GTG GCC ATC GTC CAT GCC GTG CTC CTT GGG TTT GTC		171
W G F S K Q V V A I V H A V L L G F V		570
ACT GTG TCC TGC TTC TTC ATC CCG GGC GCT GTC TTC TCA GTC CTG GAG GAT GAC		190
T V S C F F F I P A A V F S V L E D D		627

FIG. 1B-1

TGG AAC TTC CTG GAA TCC TTT TAT TTT TGT TTT ATT TCC CTG AGC ACC ATT GGC CTG	684
W N F L E S F Y F C F I S L S T I G L	228
GGG GAT TAT GTG CCT GGG GAA GGC TAC AAT CAA AAA TTC AGA GAG CTC TAT AAG ATT	741
G D Y V P G E G Y N Q K F R E L Y K I	247
GGG ATC ACG TGT TAC CTG CTA CTT GGC CTT ATT GCC ATG TTG GTA GTT CTG GAA ACC	798
G I T C Y L L G L I A M L V V L E T	266
TTC TGT GAA CTC CAT GAG CTG AAA AAA TTC AGA AAA ATG TTC TAT GTG AAG AAG GAC	855
F C E L H E L K K F R K M F Y V K K D	285
AAG GAC GAG GAT CAG GTG CAC ATC ATA GAG CAT GAC CAA CTG TCC TTC TCC TCG ATC	912
K D E D Q V H I I E H D Q L S F S S I	304
ACA GAC CAG GCA GCT GGC ATG AAA GAG GAC CAG AAG CAA AAT GAG CCT TTT GTG GCC	969
T D Q A A G M K E D Q K Q N E P F V A	323
ACC CAG TCA TCT GCC TGC GTG GAT GGC CCT GCA AAC CAT TGA gcgtaggattgtgcatt	1030
T Q S S A C V D G P A N H *	337
atgctagagcaccagggtcagggtcaaggaagaggcttaagtatgttcattttatcagaatgcaaaagcgaaaa	1106
ttatgtcacttaaaaatagctactgttgcattgtcttattaaaaaacaacaaaaagacacatggaacaaag	1182
aagctgtaccccagcaggatgtctaataatgtgaggaatagagatgtccacctaaaattcatatgtgacaaaatta	1258
tctcgaccttacataggaggagaatacttgaagcagtatgtctgtgttagaagcagatttatacttttaact	1334
ggaaaacttgggttgcatttagatcatttagctgtatggctaaatagcaaaatttatattagaagcaaaaaaaa	1410
aaagcatagagatgtttataaataggttatgttactgggttgcattgtacccacccaaaatgatttttg	1486
gagaatctaagtcaaaactcactattataatgcataggttaaccattaaactatgtacatataaagtataaatatgtt	1562
tatattctgtacatatggtttaggtcaccagatcctagtgtagttctgaaactaagactatagatatttggttct	1638
tttqattctcttataactaaqaatccaaqagtgtctacaataaaataaqggqaataataaaaaaaaaaaaaaaa	1712

FIG. 1B-2

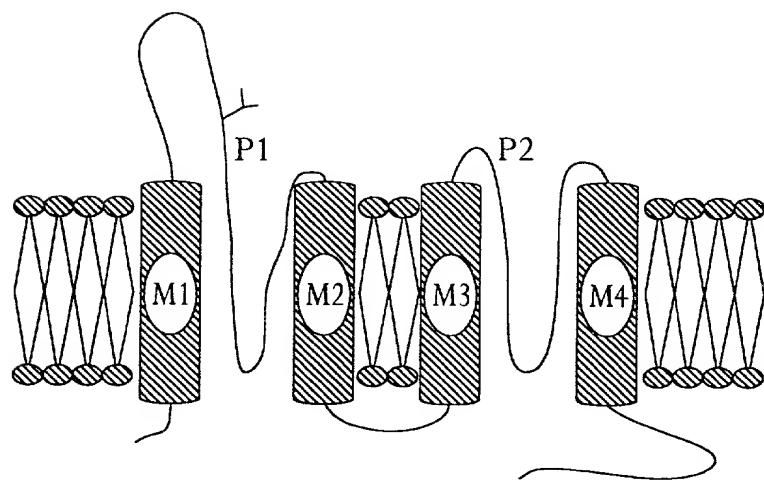
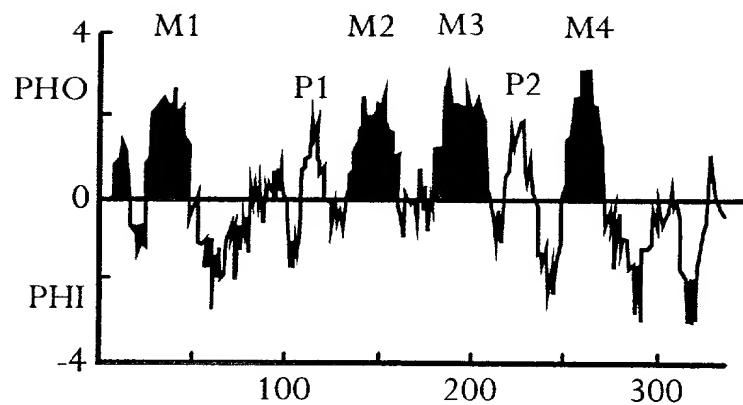


FIG. 1C

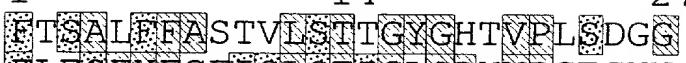
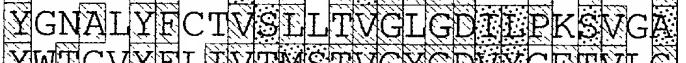
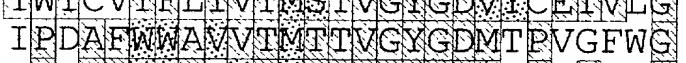
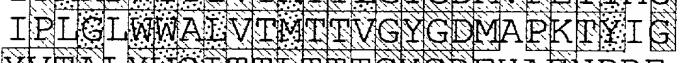
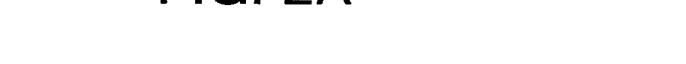
	1	14	27
TWIK-1 P1			
TWIK-1 P2			
TOK1 P2			
TOK1 P1			
Slo			
Shaker			
Shab			
Shal			
Shaw			
KAT1			
AKT1			
eag			
ROMK1			
IRK1			
GIRK1			

FIG. 2A

TWIK-1	1	MLQSLAGS SCVREVE ----- RHREAWCF -- GE ----- IVLGY
f17c8	1	MYTDEGEY SGDTDHGGSIMQKMSPNTRONFRQNVVVVCLSAATTI -----
M110-2	1	MTVSMEENSKIOMESATSKDKKATDRSLLNKYHLGPLAHTGVLSC
TWIK-1	31	LEYLMFGAVVFSVSSMELPYEDILLROE ----- LRKLKRRFLEEHEC --- L
f17c8	47	LVENLIGAGIEF ----- YLAETTONSSES
M110-2	49	VTYALGGAYLFLSIEHP EELKRREKAIREFQDLKQOFMCNITSGIEN
TWIK-1	71	SEDOOLEOFLGRV ----- EAENYGVSVLSNASGNWNW -- DFTSALE
f17c8	69	LNENSEV -- SKCLHNLPIGGKITAEMKSKLGKCTKSSRIDFGKAF
M110-2	96	SEQS EEEYTKKELIMDEDAHNAHAFYFFINHEIPKDMN -- TESSALV
P1		
TWIK-1	110	FASTVLSITGYGHTVPESDGGKAFCII YSVVIGIPFTLEKFTAVVORI
f17c8	115	FWSTVLYSTVGYGSIYPHSTELGRYETTF YSLIMIPVFLAEKFEFGTFL
M110-2	142	FTTTTVIPVGYGYIYPVSAVGR MCLTAYALLGIPLETIVTMAETGKHA
TWIK-1	157	TVH --- VTRRPV ----- YEHIERWGESKOVVALVHAVLLGEVTVSCFF
f17c8	162	AHFLVVVSNRTREAVKKAYKES QNPENAETPSNSLQHDYIIFLSSI
M110-2	189	AQL --- VTR ----- WFGDNNMAIPAAITV ----- CLI
P2		
TWIK-1	197	FI PAAVFS ----- VL EEDDNWESF YFCFISI STIGECDYVRGEGYN
f17c8	209	LICSESLISSSAEFS SSIENISY ISSVYFGIITMFLINGEGDIVPTN ---
M110-2	213	FAYPLWVGF ----- LLCSTSNTIYLESVYFSETSIIFTIGFGDLT P ---
TWIK-1	239	QKFRECYKTKGECYLELGLIAMIYVVIETFC ----- ELLHEKKTR
f17c8	254	----- FVWFSGYCMFLFLISDVLSNQIIFYFCQARVRYFFHLARKII
M110-2	253	----- DMNVVDMVLFIAVGVILVTTLDIVA AEMIDRVH YMGRHVG
TWIK-1	278	----- KMFYVKKDKDEDQWHLTEHDQI ----- SF\$SETDOAAGMKEID
f17c8	295	LLRE EDDGFOLETTVYSLQHEPILINSQCMPSI ----- VLDCEKEELDND
M110-2	294	KAKELAGKMFOLAQSINAKOGLVSGVGOLHALARFGMIVGREGEVDKIQ
TWIK-1	315	QKQNEPFVAT ----- Q\$SACVDPANH
f17c8	338	EKLISSEST
M110-2	342	EDGIIIAFSPDVMGLEFMDTLSIYSRRS\$RRSAENSARNLFLS

FIG. 2B

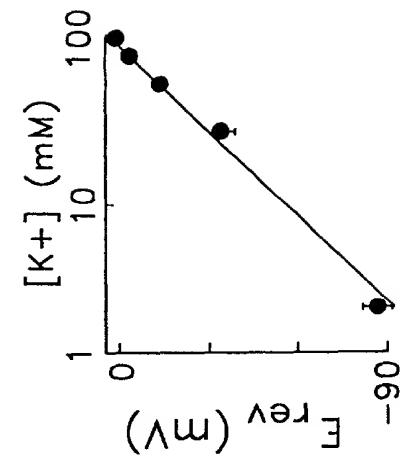


FIG. 3C

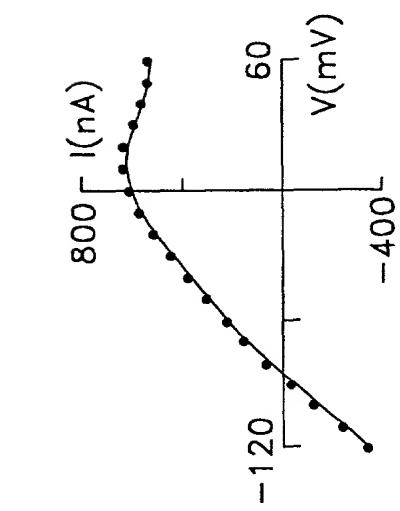


FIG. 3B

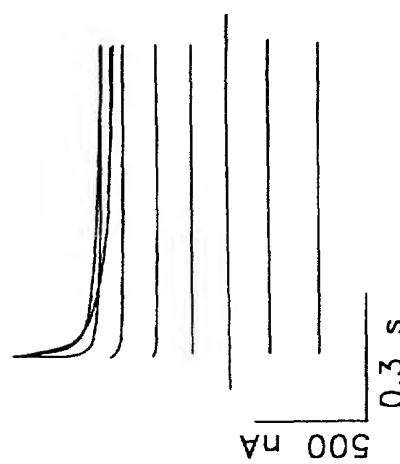


FIG. 3A

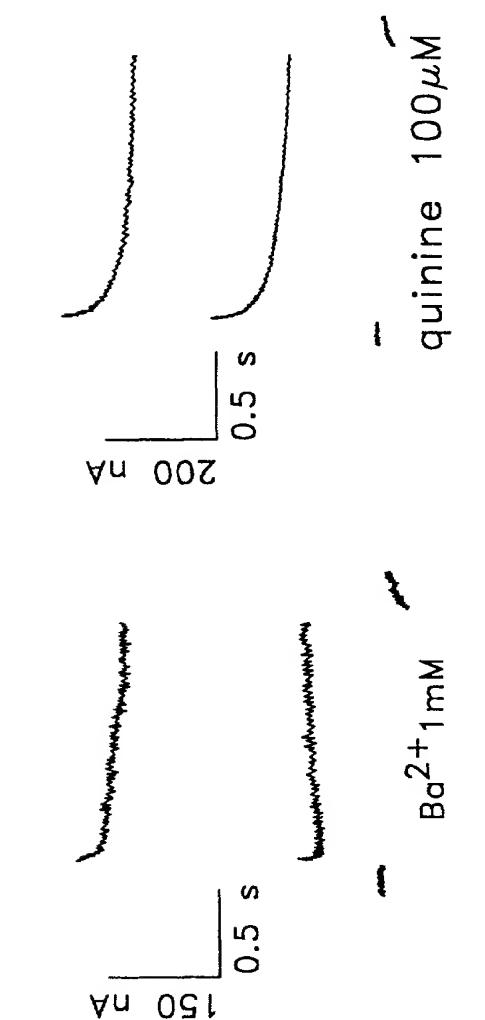
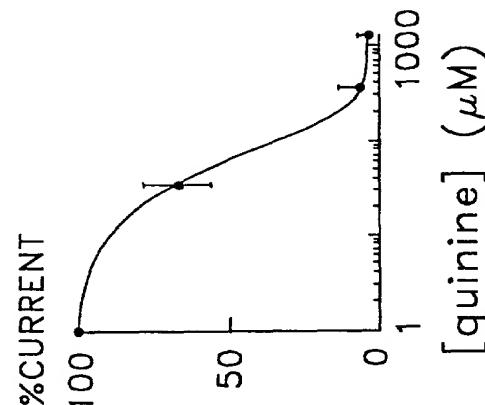


FIG. 3D

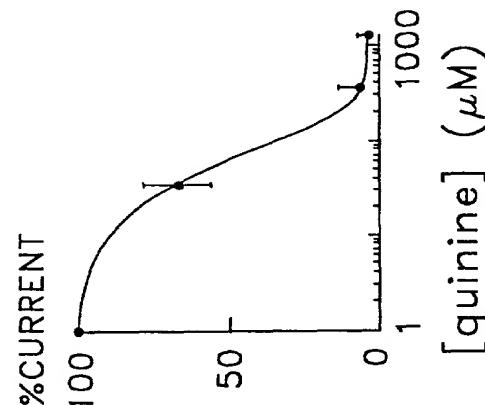


FIG. 3E

FIG. 3F

FIG. 4A

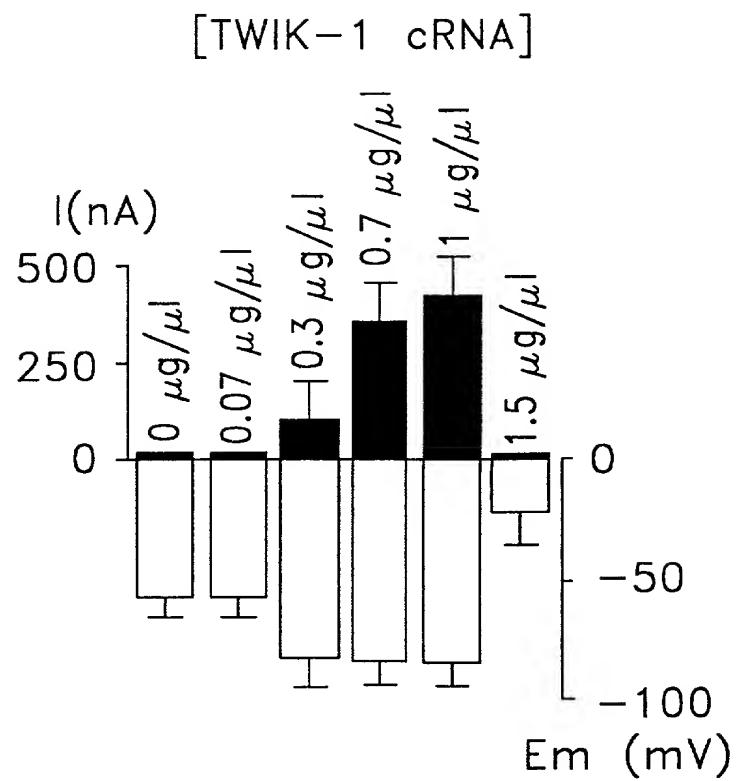


FIG. 4B

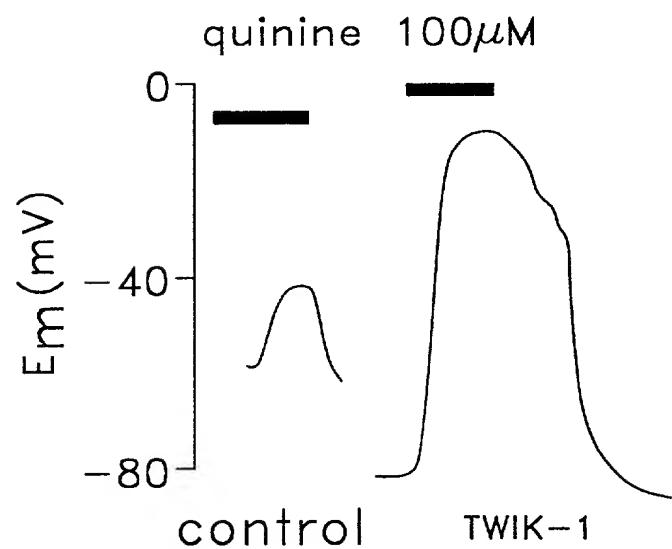
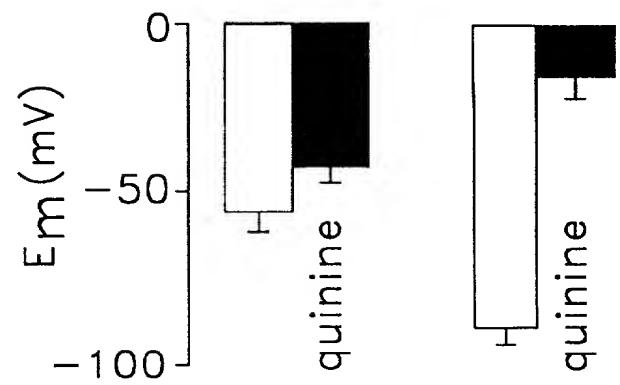


FIG. 4C



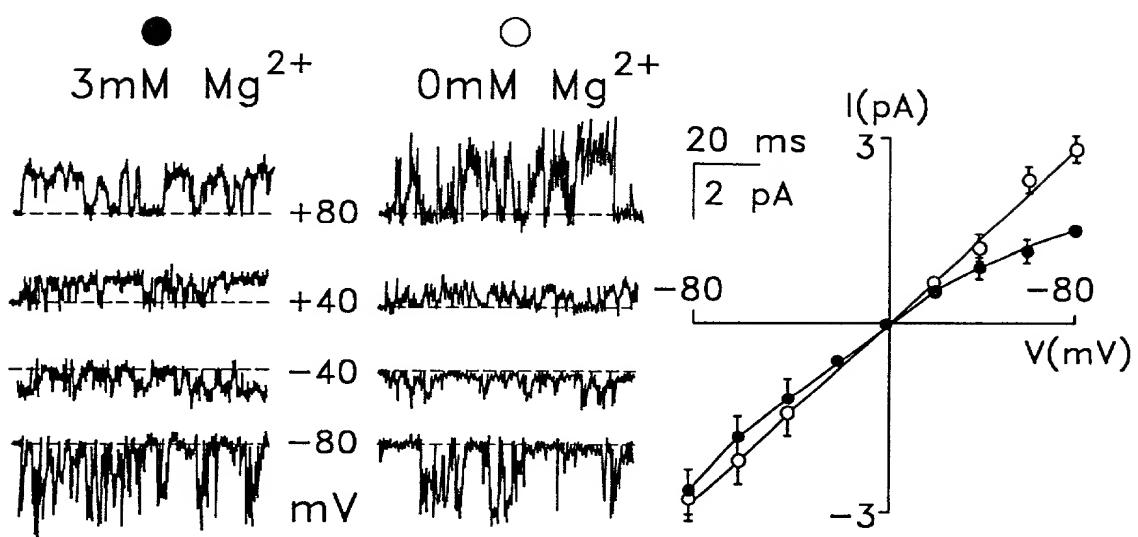


FIG. 5A

FIG. 5B

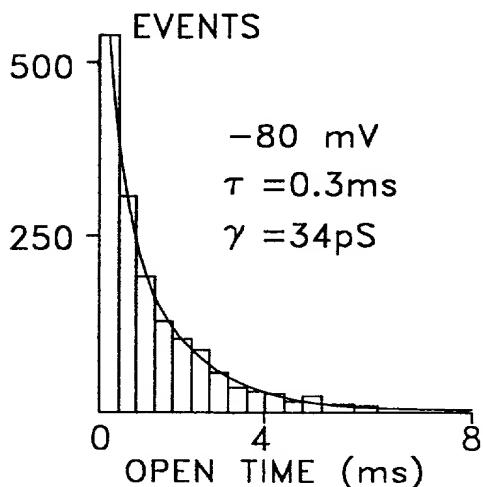
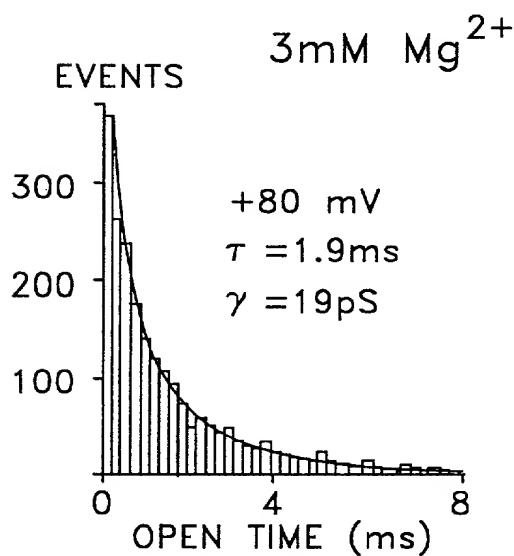


FIG. 5C

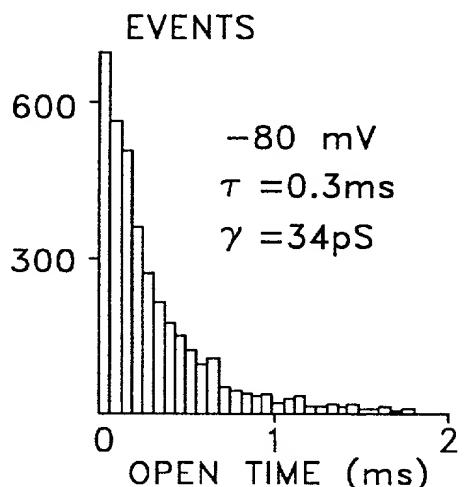
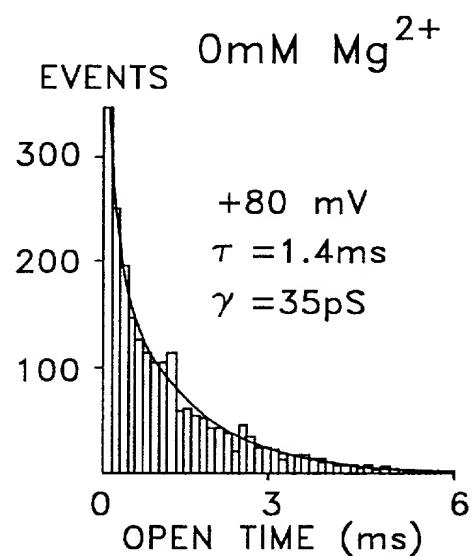


FIG. 5D

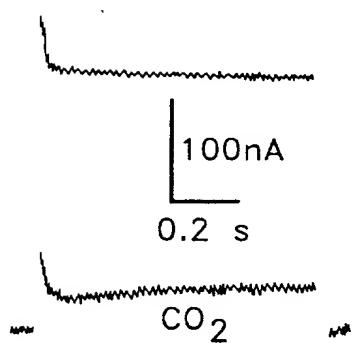


FIG. 6A

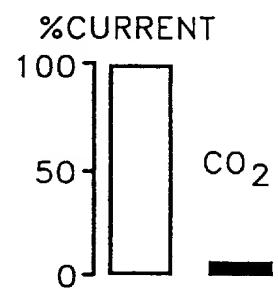


FIG. 6B

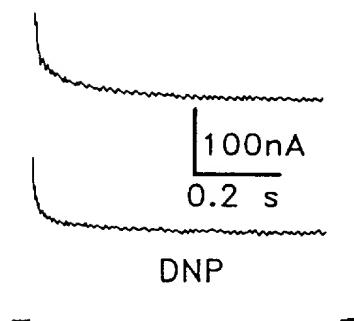


FIG. 6C

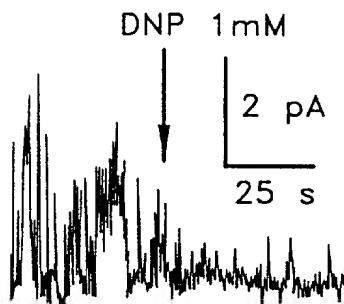


FIG. 6E

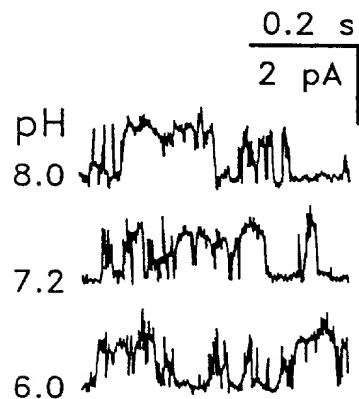


FIG. 6G

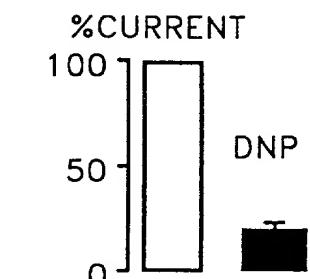


FIG. 6D

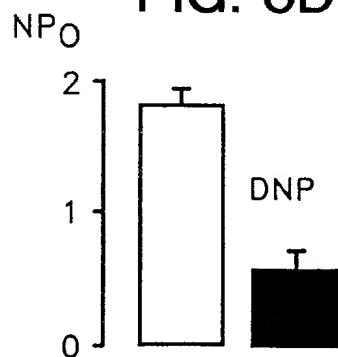


FIG. 6F

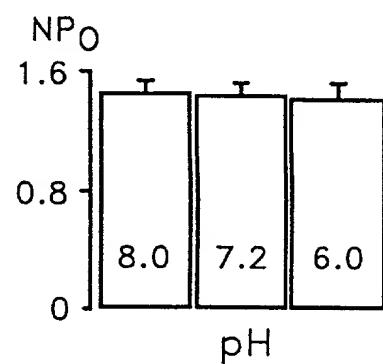


FIG. 6H

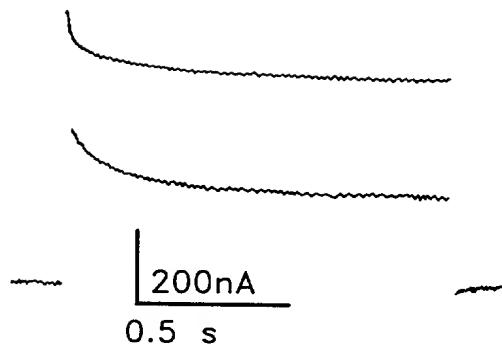


FIG. 7A

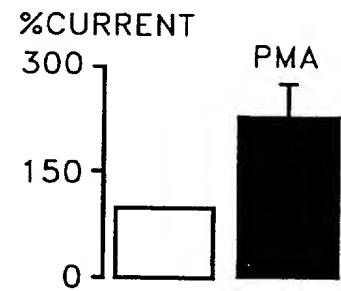


FIG. 7B

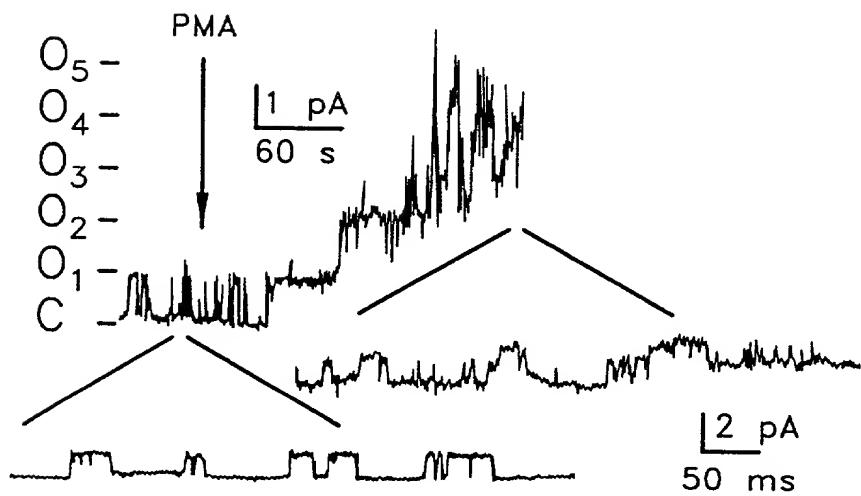


FIG. 7C

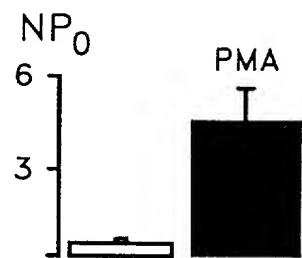


FIG. 7D

tgccctgcgcggatagcggcgagcgcagccatgccccaggccgcctccg -77
 gggcagcagcggccggccggccatgcgcggccggggccggccggccggggacg -1

 ATG AAG CGG CAG AAC GTG CGC ACG CTG GCG CTC ATC GTG TGC ACC TTC ACC TAC CTG 57
 M K R Q N V R T L A L I V C T F T Y L 19
 E N V R T L A L I V C T F T Y L

 CTG GTG GGC GCC GCG GTC TTc GAC GCG CTG GAG TCG GAG CCC GAG CTG ATC GAG CGG 114
 L V G A A V F D A L E S E P E L I E R 38
 L V G A A V F D A L E S E P E M I E R

 CAG CGG CTG GAG CTG CGG CAG CAG GAG CTG CGG GCG CGC TAC AAC CTC AGC CAG GGC 171
 Q R L E L R Q Q E L R A R Y N L S Q G 57
 Q R L E L R Q L E L R A R Y N L S E G
 *
 GGC TAC GAG GAG CTG GAG CGC GTC GTG CTG CGC CTC AAG CCG CAC AAG GCC GGC GTG 228
 G Y E E L E R V V L R L K P H K A G V 76
 G Y E E L E R V V L R L K P H K A G V

 CAG TGG CGC TTC GCC GGC TCC TTC TAC TTC GCC ATC ACC GTC ATC ACC ACC ATC GGC 285
 Q W R F A G S F Y F A I T V I T T I G 95
 Q W R F A G S F Y F A I T V I T T I G

 TAC GGG CAC GCG GCA CCC AGC ACG GAT GGC GGC AAG GTG TTC TGC ATG TTC TAC GCG 342
 Y G H A A P S T D G G K V F C M F Y A 114
 Y G H A A P S T D G G K V F C M F Y A

 CTG CTG GGC ATC CCG CTC ACG CTC GTC ATG TTC CAG AGC CTG GGC GAG CGC ATC AAC 399
 L L G I P L T L V M F Q S L G E R I N 133
 L L G I P L T L I M F Q S L G E R I N

 ACC TTG GTG AGG TAC CTG CTG CAC CGC GCC AAG AAG GGG CTG GGC ATG CGG CGC GCC 456
 T L V R Y L L H R A K K G L G M R R A 152
 T E V R Y L L H R A K R G L G M R H A

 GAC GTG TCC ATG GCC AAC ATG GTG CTC ATC GGC TTC TTC TCG TGC ATC AGC ACG CTG 513
 D V S M A N M V L I G F F S C I S T L 171
 E V S M A N M V L I G F V S C I S T L

 TGC ATC GGC GCC GCC TTC TCC CAC TAC GAG CAC TGG ACC TTC TTC CAG GCC TAC 570
 C I G A A A F S H Y E H W T F F Q A Y 190
 C I G A A A F S Y Y E R W T F F Q A Y

 TAC TAC TGC TTC ATC ACC CTC ACC ACC ATC GGC TTC GGC GAC TAC GTG GCG CTG CAG 627
 Y Y C F I T L T T I G F G D Y V A L Q 209
 Y Y C F I T L T T I G F G D Y V A L Q

 AAG GAC CAG GCC CTG CAG ACG CAG CCG CAG TAC GTG GCC TTC AGC TTC GTC TAC ATC 684
 K D Q A L Q T Q P Q Y V A F S F V Y I 228
 K D Q A L Q T Q P Q Y V A F S F V Y I

 CTT ACG GGC CTC ACG GTC ATC GGC GCC TTC CTC AAC CTC GTG GTG CTG CGC TTC ATG 741
 L T G L T V I G A F L N L V V L R F M 247
 L T G L T V I G A F L N L V V L R F M

FIG. 8A

FIG. 8B

	1	- - - - M L Q S L A G S S C V R - - - - - L V E R H R S - - -
	1	1 M A A P D I L D P K S A A Q N S K P R L S F S S K P T V L A S R V E S D S A
	1	- - - - M K R - - - Q - N V R - - - - -
		M1
TWIK-1	20	- - - - A W C F G - F L V L G Y I L Y L V F G A V V F S S V E L P Y E D L L
TREK-1	39	I N V M K W K T V S T I P L V V V L Y L I G A A V F K A L E Q P Q E I S Q
TASK	8	- - - - T L A L I V C E T Y L L V G A A V F D A L E E S E P E L I E
		P1
TWIK-1	53	R Q E L R K L K R R F L E E H E C L S E Q O L E Q F L G R V L E A S N Y G V
TREK-1	77	R T T I V I Q K O T E I A Q H A C V N S T E L D E L F Q Q I V A T I N A G I
TASK	38	R Q R L E E R Q Q E E R A R Y N L S Q G G - Y E E L E R V V L R L K P H K A
		M2
TWIK-1	91	S V L S N A S G - N W N W D F T S A I F F A S T V L S T T G Y G H T A P E S
TREK-1	115	I P L G N S S N Q V S H W D L G S S F F A C T V I T T I G E G N A S P R T
TASK	75	- - - - - V Q - W R F A G S F Y F A I T V I T T I G Y G H A P S T
		M3
TWIK-1	128	D G G K A F C I I Y S V I G I P E T L L F L T A V V O R I T V H V T R - - R
TREK-1	153	E G G K A F C I I Y A L L G I P L E G F I L L A G V G D Q L G T I F G K G I A
TASK	104	D G G K A F C M E Y A L L G I P L T L V M F O S L G E R I N T E V R Y - - -
		P2
TWIK-1	164	P V L Y F H I R W G F S K Q V V A I V H A V L I G F V T V S C F F E I P A A
TREK-1	191	K V E D I F I K I N V S Q T K I R I I S T I T I R I F G C V L F V A H P A V
TASK	139	L I H R A K K G I G M R R A D V S M A N M V L I G F F S C I S T I C I G A A
		M4
TWIK-1	202	V F S V I G E D D W N F L E S E Y F C F I S L S T I G I G D Y V B G E - G Y N
TREK-1	229	I F K H I E G - W S A L D A I Y F V V I T L T T I G F G D Y V A G I - G S D
TASK	177	A F S H Y E H - W I F K O A V Y Y C F I T L T T I G F G D Y V A I D O K D Q A
		P3
TWIK-1	239	Q K F R E I Y K I G I T C Y L L I G L I A M L V L E T E C E L H E L K K F
TREK-1	264	I E Y L D F Y K P V V W F W I L V G L A Y F A A V L S M I G D W L R V I S K
TASK	214	L Q T Q P Q Y V A B S F V Y I L T G L T V I G A F L N E V V L R F M T M N A
		NH2
TWIK-1	277	R K M F Y V K K D K D - - - - -
TREK-1	302	K T K E E V G E F R - - - - -
TASK	252	E D E K R D A E H R A L L T R N G Q A G G G G G G S A H T T D T A S S T A
		COOH
TWIK-1	288	- - - - - E D Q V H I I E H D Q L S F S S I T D Q A A G M K - - -
TREK-1	312	- - - - - A H A A E W T A N V T A E E K E T R R R L S V E I - - -
TASK	290	A A G G G G F R N V Y A E V I H F Q S M C S C L W Y K S R E K L Q Y S I P M
		out
TWIK-1	313	- - - E D Q K O N E P F V A T Q S S A C V D G P A N H - - - - -
TREK-1	337	- - - Y D K F Q R A T S V K R K L S A E I A G N H N Q E L T P C M R T C L -
TASK	328	I I P R D L S T S D T C V E Q S H S S P G G G G R Y S D T P S R R C L C S G
		in
TWIK-1	337	- - - - -
TREK-1	371	- - - - -
TASK	366	A P R S A I S S V S T G L H S L S T F R G L M K R R S S V

FIG. 9A

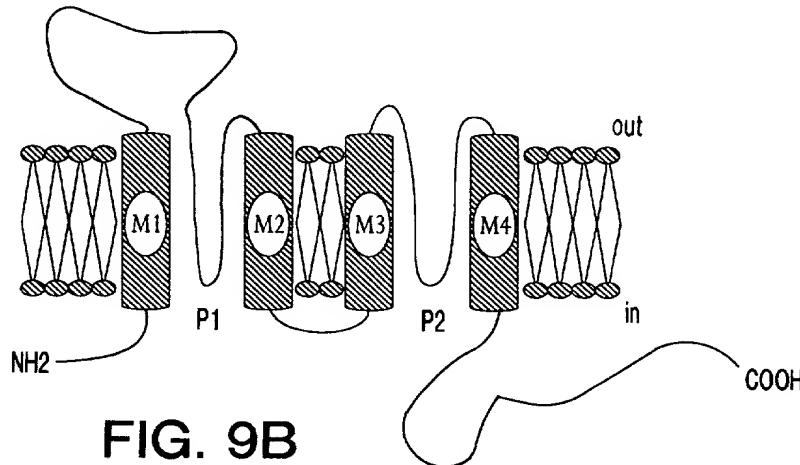


FIG. 9B

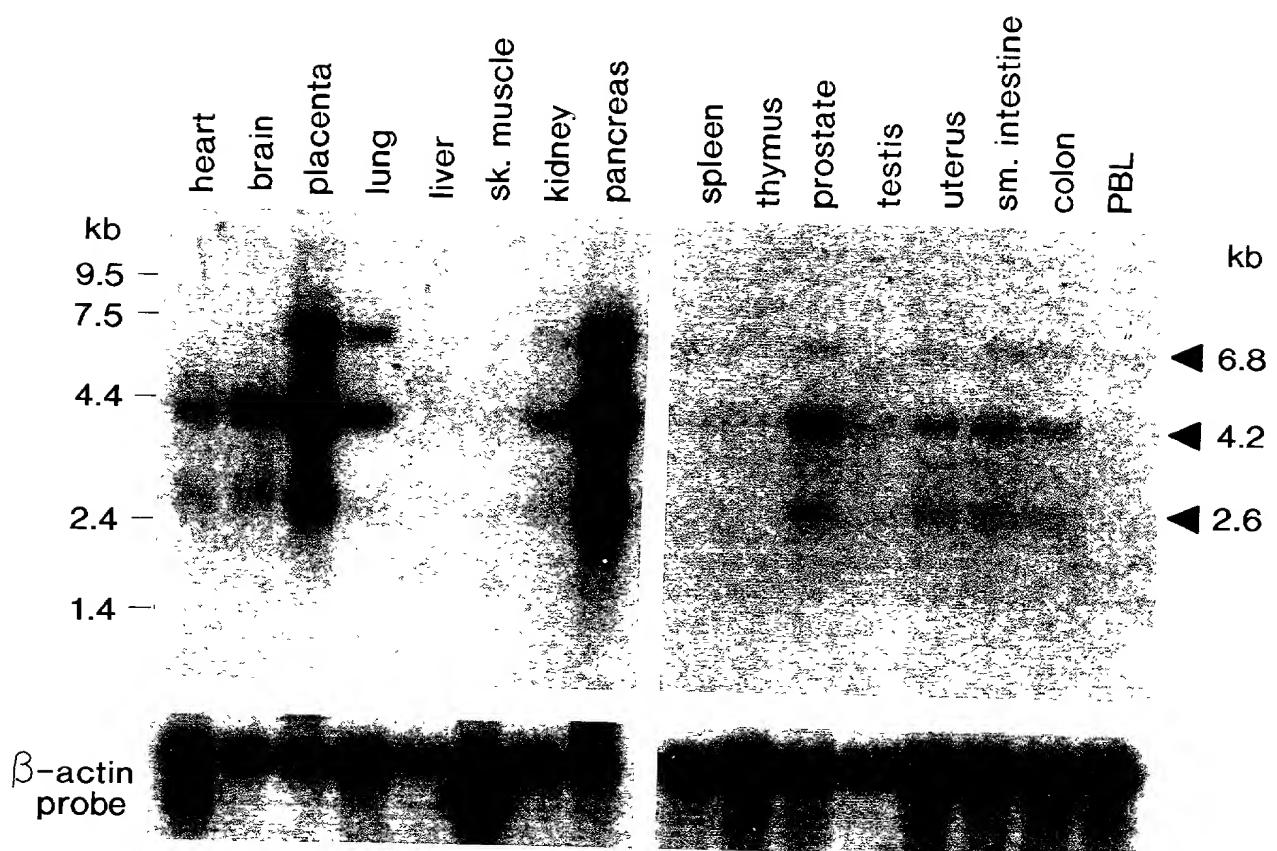


FIG. 10

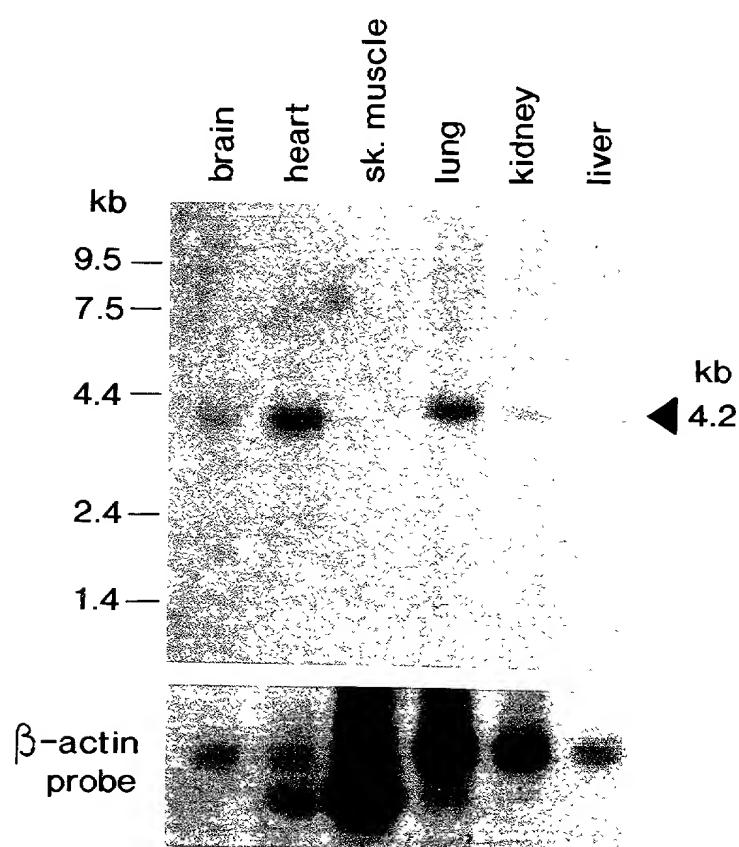


FIG. 11A

FIG. 11B

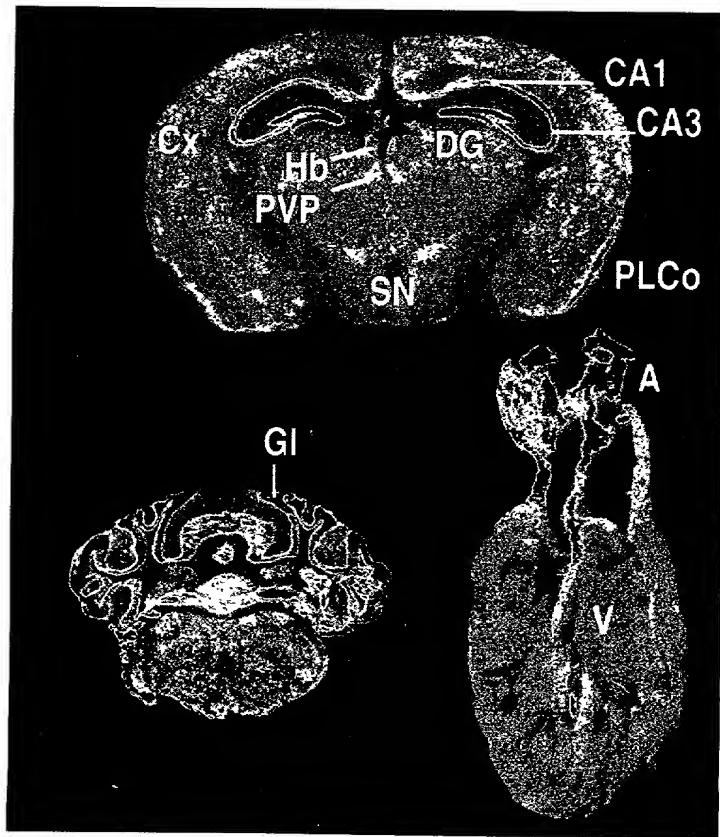


FIG. 11C

FIG. 11D

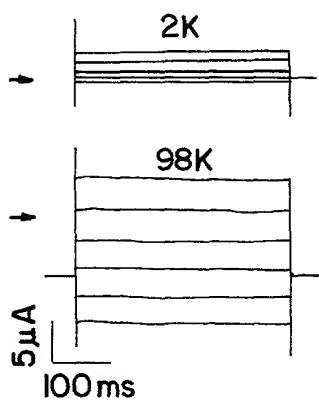


FIG. 12A

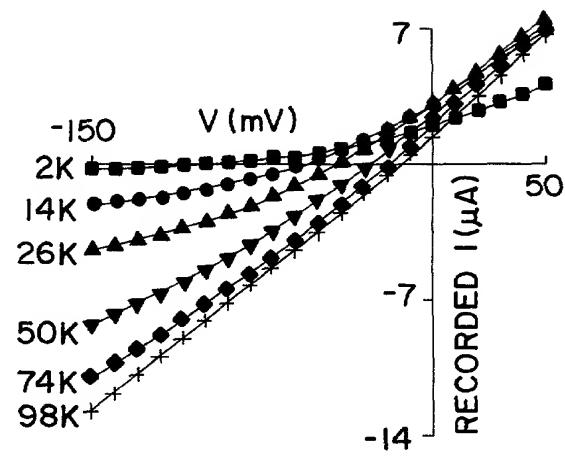


FIG. 12B

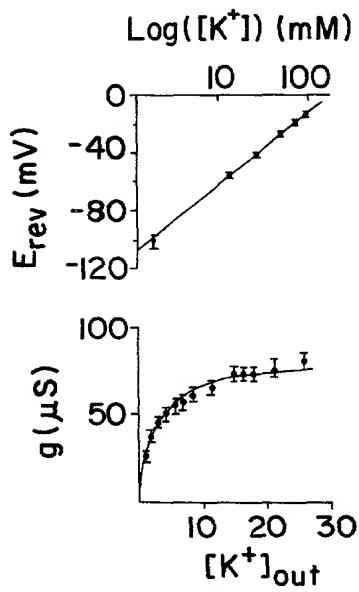


FIG. 12C

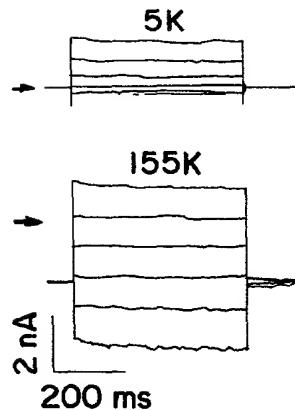


FIG. 12E

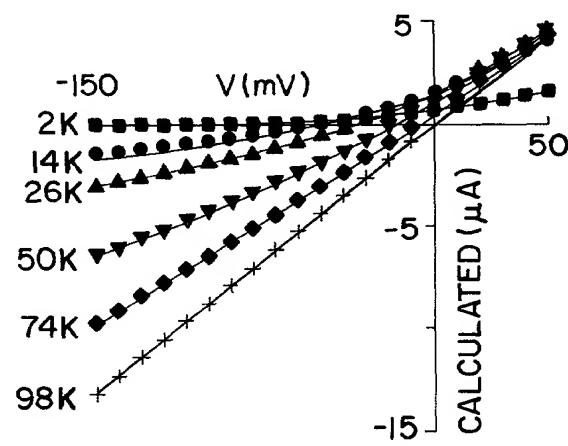


FIG. 12D

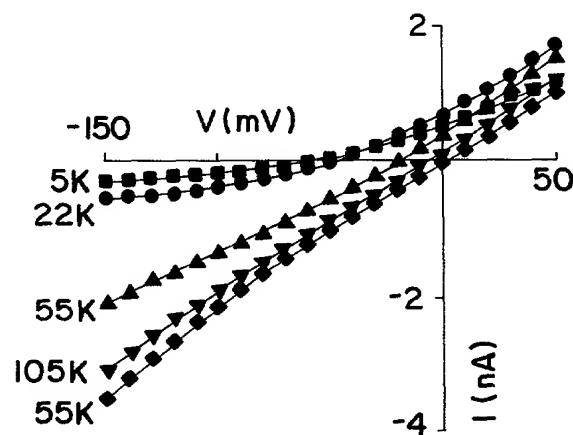


FIG. 12F

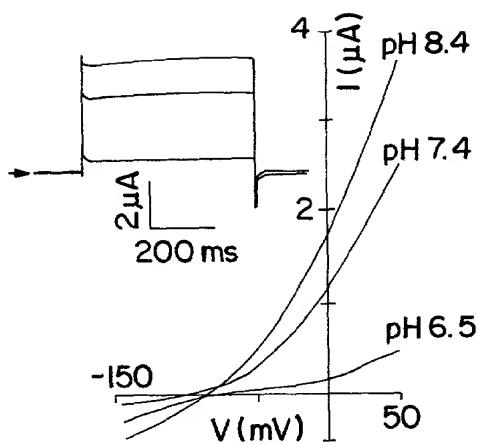


FIG. 13A

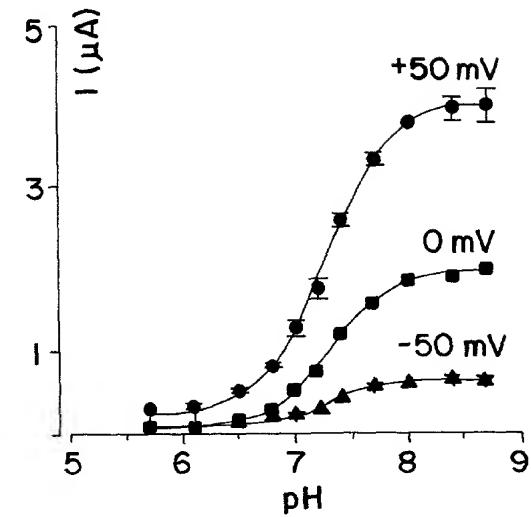


FIG. 13B

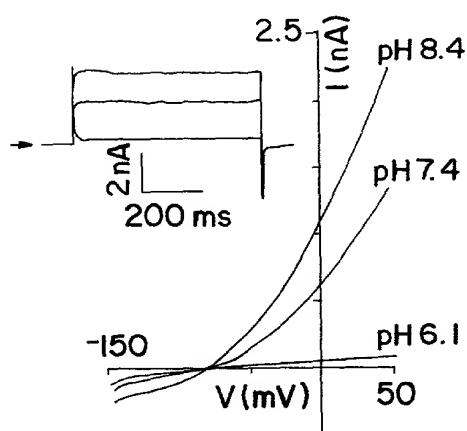


FIG. 13C

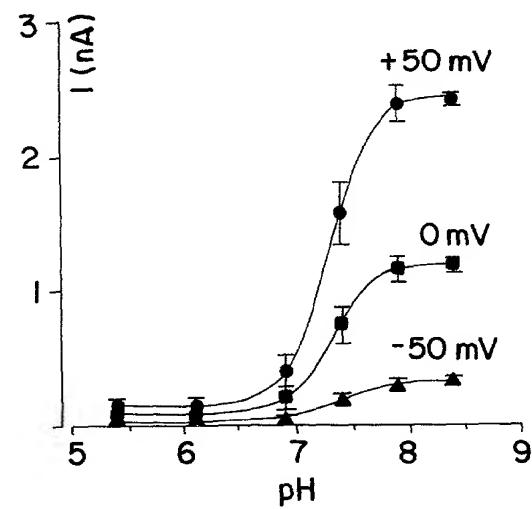


FIG. 13D